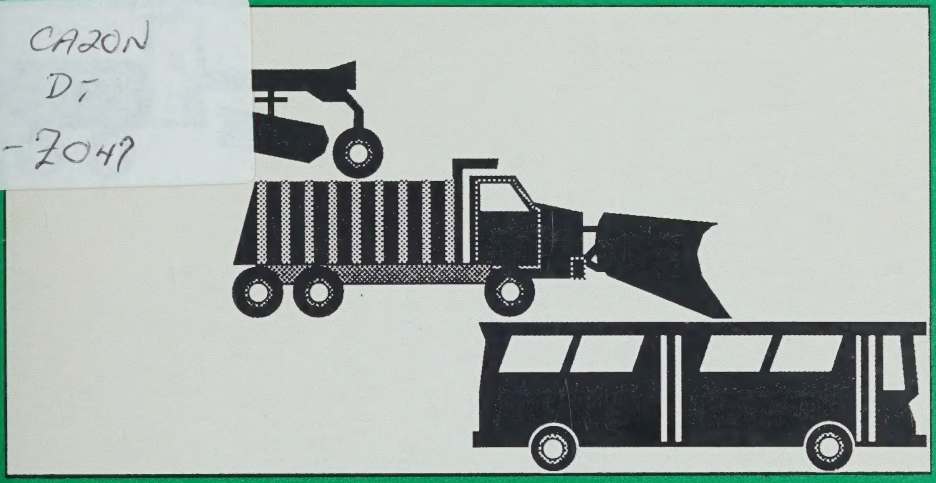
MUNICIPAL Program

IPALITIES AND GOVERNMENT WORKING TOGETHER TO SAVE FUEL



Information

A Catalogue of Publications on Transportation Energy Conservation Opportunities

MUNICIPAL TRANSPORTATION ENERGY PROGRAM

The Municipal Transportation Energy Program of the Ministry of Transportation (MTO), is aimed at increasing the energy and operational efficiency, and productivity of Ontario's transportation under municipal jurisdiction. It is conducted in conjunction with the Municipal Transportation Energy and Efficiency Advisory Committee (MTEEAC) which provides program guidance, technical assistance and coordination to Ontario Municipalities.

Conducted in cooperation with the Ontario municipalities, the Municipal Transportation Energy Program deals with the analysis of transportation energy usage, identification of conservation and energy management and efficiency improvement needs as well as the implementation of energy management and efficiency improvement programs based on the developed measures.

The implementation of energy management and efficiency improvement programs and measures is achieved through the supply of information, advice and assistance to the municipalities, and the initiation of selected demonstrations.

The ministry also develops and promotes efficiency and productivity improvement measures for trucking and light vehicle fleets through its Drive$ave/Trucksave Program. It promotes car- and vanpooling through a Share-A-Ride program and encourages the use of alternative transportation fuels (ATF).

Each of the documents summarized in this booklet has been developed by the Municipal Transportation Energy Program. However, not all of this material is available through the program; in some cases the desired material may be obtained through the municipalities involved.

THE ADVISORY COMMITTEE

The Municipal Transportation Energy Program maintains direct contact with municipalities through the Municipal Transportation Energy and Efficiency Advisory Committee (MTEEAC). The committee, comprised of various department heads from municipalities across the province, meets once a month. The committee members provide guidance, technical assistance and coordination to municipalities undertaking studies of efficiency improvement. They also help with program development, implementation and the monitoring of program performance.

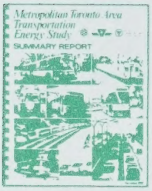
NOTE: The committee changed its name from the Municipal Transportation Energy Advisory Committee (MTEAC) to the **Municipal Transportation Energy and Efficiency Advisory Committee (MTEEAC)** on February 17, 1989.

NEWSLETTER

MTEEAC publishes a transportation energy newsletter to act as a communication link between the Ministry of Transportation Energy Program and Ontario municipalities. The seasonal newsletter, with a circulation of approximately 5000, informs municipalities of programs and measures being undertaken to achieve greater energy and operational efficiency in transportation. A complete list of all articles published in the newsletter is included at the end of this booklet in the Index.

PUBLICATIONS

Metropolitan Toronto Area Transportation Energy Study (MTATES) Phase I, 1980



(1) Summary Report
The purpose of the Summary Report is to capsulize in non-technical terms Phase I of the MTATES study by highlighting the information presented in the following background reports. (pp.43)

(2) Background Report #I: Land Use, Transportation and Energy Relationships
This report summarizes the principles of land use, transportation planning and energy consumption analysis, where possible, within the context of the Metropolitan Toronto area. (pp.28)

(3) Background Report #II: Energy Consumption and Intensity of Transportation Modes
Examined in the Background Report is the transportation energy consumption and intensity for modes of transportation operating in Metropolitan Toronto. A methodology for calculating transportation energy consumption in the Lakeshore West corridor is studied through the use of several graphs and charts. (pp.66)

(4) Background Report #III: Future Energy Scenarios
The purpose of this report is to focus on future energy supply and demand issues which may affect Metropolitan Toronto. Within this focus, demographic characteristics, historical trends, metropolitan and area plans, alternative fuels and prospects for technology advances are studied.

Metropolitan Toronto Area Transportation Energy Study Phase II, 1984

(1)Summary Report
This report is a summary of Phase II of the MTATES study which focused on the development of procedures and/or measures that could be implemented by Metropolitan Toronto to conserve energy. (pp.44)

(2)Background Report #I: Short-Term Transportation Energy Conservation Measures
Energy conservation measures suitable for immediate implementation within Metropolitan Toronto are studied in this report. Computer-optimized timing, semi-actuated signal control and transit marketing are a few of the many measures considered for implementation. (pp.118)

(3)Background Report #II: Energy Conservation Through Transportation Land Use
This report presents an analysis of measures to reduce transportation energy consumption. Land-use patterns, density changes and the location of new transportation facilities are the measures to achieve this reduction. (pp.82)

(4)Background Report #III: A Contingency Plan Strategy
In this report, methods for maintaining reasonable levels of mobility during a fuel shortage were identified in order to prepare a coordinated strategy. This strategy includes the specific tasks which municipalities should undertake in a fuel shortage. (pp.128)

NOTE: The above reports can be obtained from the following address:

The Metro Toronto Planning Department
City Hall
11th Floor, East Tower
Toronto, Ontario
M5H 2N1

Ottawa-Carleton Transportation Energy Management Study (OCTEMS) 1984

(1) Executive Summary
This report summarizes the results of the Ottawa-Carleton Transportation Energy Management Study by highlighting the main points of the following three documents: (pp.17)

(2) Transportation Energy Conservation Plan
This plan outlines various measures that could be implemented to reduce transportation energy consumption. Measures that could be implemented in the short term without large capital investments or significant changes in travel behaviour are highlighted. (pp.69)

(3) Transportation Energy Data Base
A procedure to incorporate energy consumption impacts into the overall ranking and evaluation of transportation improvement projects is studied. Energy data base worksheets, monographs and numerical examples are used to illustrate the study's main points. (pp.19 and appendices)

(4) Transportation Energy Contingency Plan
The plan outlines various programs that the region could implement in the event of an energy shortfall and an organizational framework through which the programs could be implemented. (pp.31)

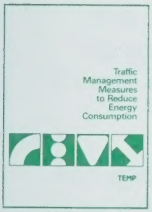
NOTE: The above reports can be obtained from the following address:

The Ottawa-Carleton Planning Department
Ottawa-Carleton Centre
Cartier Square
111 Lisgar Street, 2nd Floor
Ottawa, Ontario
K2P 2L7

Municipal Transportation Energy Seminars Summary of Proceedings, 1981

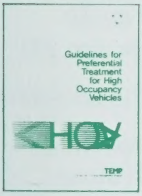
The Municipal Transportation Energy Seminars were held across the province between April and June 1980 to inform municipalities of the need for energy conservation and make them aware of the conservation opportunities available to them. This report summarizes the presentations and discussions of the seminars. (pp.95)

Traffic Management Measures to Reduce Energy Consumption, 1981



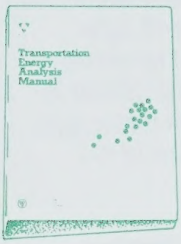
The objective of this report is to guide and assist municipalities in the development, evaluation, implementation and monitoring of traffic operations measures to reduce energy consumption. Improved signal timing, flashing of signals and reversible lanes are some of the many measures discussed through the use of charts, diagrams and case studies. (pp.36 and appendices)

Guidelines for Preferential Treatment for High Occupancy Vehicles, 1982



This report gives a detailed look at high occupancy vehicle (HOV) lanes. A step-by-step explanation makes topics such as HOV lanes, signal treatments, the planning of an HOV project and policies easy to understand. (pp.62)

Transportation Energy Analysis Manual, (TEAM) 1982/83



The purpose of the Transportation Energy Analysis Manual (TEAM) is to guide municipal decision-makers and transportation professionals to those actions which can effectively reduce energy consumption within their municipality. The manual is organized into 10 chapters which outline the principal technical considerations to conserve energy through transportation improvements. (The cost of the manual is $30.)

1: Overview and Summary
This chapter surveys the range of activities and programs available for increasing the energy efficiency of transportation systems in Ontario. (pp.17)

2: Street-System Operation
Graphs and charts help to illustrate the energy conservation activities which would be applicable for implementation in the operation of street and highway systems. (pp.36)

3: Transit Service
The energy conservation activities which are applicable for implementation in the operation of public transit services are highlighted in this chapter. (pp.24)

4: Ridesharing
This chapter focuses on and highlights the various approaches and types of service available to those interested in ridesharing to conserve energy. (pp.26)

5: Travel Demand Management
This chapter illustrates travel management techniques which can be used to conserve energy in a specific area. (pp.34)

6: Municipal Fleet Management
Energy conservation activities, such as new vehicle resizing, driver training and vehicle maintenance and their suitability for the management of a municipality's fleet of vehicles are discussed in this chapter. (pp.31)

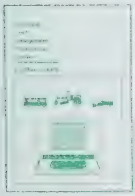
7: Road Construction and Maintenance
This chapter investigates potential municipal energy conservation measures involving reductions in fuel consumption and the use of substitutes for oil-based materials used in road construction, as well as analytical techniques for estimating energy use. (pp.24)

8: Contingency Planning
The basic elements for planning at a municipal level for potential large-scale petroleum shortages are highlighted in this chapter. (pp.21)

9: Municipal Energy Program Management
This chapter highlights the principles involved in managing transportation energy conservation in a municipal setting. (pp.24)

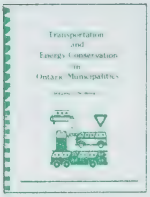
10: Energy Analysis Manual
The steps and principles to be followed in implementing a transportation improvement program focused on mobility and energy needs are detailed in this chapter. (pp.24)

Municipal Fleet Management Information System (MFMIS), 1988



A stand-alone, microcomputer-based software package was designed to assist municipalities in fleet management. System features include parts inventory and inventory control, vehicle maintenance, replacement scheduling, and fuel economy, as well as a number of additional functions which aid fleet management. System documentation includes a System Description, an Implementation Handbook, a User Manual, a Production Manual, and two volumes of Systems Manuals. The above system is available to Ontario Municipalities.

Survey: Transportation and Energy Conservation in Ontario Municipalities



Volume 1: Summary 1981
In 1981 a questionnaire was administered to all Ontario municipalities concerning characteristics relevant to energy problems, local perceptions of these problems, and the action taken by municipalities. The study categorized the transportation-related energy activities and provided an indication of these activities. This part of the report summarizes the main findings of the survey. (pp.31)

Volume 2: Appendix
This report provides a detailed look at the 1981 questionnaire. It describes the survey method and the findings, question-by-question and measure-by-measure. (pp.159)

Alternative Work Schedules Study, 1982

This final report documents the findings and conclusions from the Alternative Work Schedules Study carried out in 1981. The study illustrates to what extent alternative work schedules can contribute to energy savings in Ontario. (pp.38 and appendices)

TEAM Seminars Evaluation Report, 1982

During the Spring of 1982, a series of Municipal Transportation Energy Seminars were presented by the Municipal Transportation Energy Advisory Committee (MTEAC). This report is an evaluation of the seminar sessions, with items such as seminar locations, format and scheduling, and seminar content being studied. (pp.50)

1981 Employee Travel Habits - Municipal Respondents, 1983

Time series information on travel behaviour, travel-related attitudes and automobile utilization is highlighted in this report based on the 1981 survey. Several charts are used to fully explain the questions administered to municipal employees in Ottawa, Sault Ste. Marie, Waterloo and Niagara. (pp.144)

Fleet Management and Energy Curriculum for Municipal Training Courses 1989

This course deals with the management of municipally owned or operated vehicles - and, more specifically, with implementing measures that can help increase safety, reduce fuel consumption, and reduce maintenance costs. It is designed to create awareness of the benefits derived from a professional systematic approach to fleet management. (pp. 92)

Traffic Engineering and Energy Curriculum for Municipal Training Courses

This course is designed for those who, in their day-to-day work, require knowledge of the transportation efficiency and energy implications of traffic management measures. The course describes the features, benefits and energy impacts of using various techniques to improve street system efficiency and how decreasing travel time and increasing road capacity translates into fuel savings. (pp.59)

TEAM Summary Booklets

The purpose of these booklets is to provide a summary of the main points of the Transportation Energy Analysis Manual (TEAM) in non-technical language for politicians and non-technical people.

Energy Conservation Through Traffic Management, 1981

One-way street systems, down-signing, bus bays and reversible lanes are some of the traffic management measures discussed in this booklet. (pp.16)

Energy Conservation Through Fleet Management, 1982

This booklet outlines a range of fuel-saving techniques and fuel substitution measures that have proved effective in reducing municipal fleet operating costs. (pp.16)

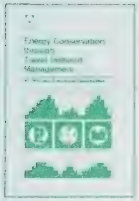
Energy Conservation Through Road Construction and Maintenance, 1983

Measures to reduce costs in the road construction and maintenance area, such as reducing lane and shoulder widths and recycling asphalt pavement are discussed in this chapter. (pp.11)

Energy Conservation Through Transit and Ridesharing, 1983

This booklet outlines some of the specific measures that municipalities can put into effect in the transit and ridesharing areas to help meet current and future transportation needs while saving energy and dollars. (pp.12)

Energy Conservation Through Travel Demand Management, 1983

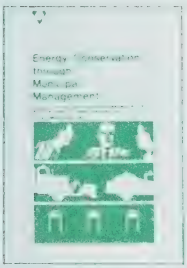


Energy conservation through alternative work schedules, innovative parking strategies and zoning to restrict automobile traffic is discussed. (pp.12)

Energy Conservation Through Transportation Program Management, 1983

This booklet focuses on how a municipality can effectively plan and direct the implementation of a comprehensive transportation energy management program. (pp.12)

Energy Conservation Through Municipal Management: An Overview of Opportunities for Small Municipalities, 1986



This booklet outlines transportation energy conservation opportunities available to small and rural communities (pop. 5 000-15 000). Advice and recommendations are offered including a brief description of program start-up and management for developing an energy conservation program. (pp.12)

Alternative Transportation Fuel Booklets

The Transportation Energy Program has published two guides for successful conversion to alternative fuels. Each gives detailed descriptions of good conversions, safety regulations, and operating and maintenance practices.

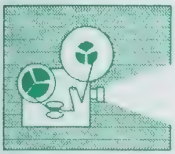
Switching to Natural Gas (pp.24)
1985. Revised 1986.

Switching to Propane (pp. 40)
1985. Revised 1987.

The program is also a source for information on all non-commercialized alternative transportation fuels.

Driver Training

"Planning Smarter, Driving Smoother"



Training Film or Slide Show
Produced by the Government of Ontario, this film provides municipal vehicle operators with ideas on how each driver can save fuel by efficient driving techniques and habits.

It is available on VHS or 35mm slide format and can be borrowed for a three-week period.

Quiz Booklet

Planning Smarter, Driving Smoother Quiz Booklet
This quiz consists of 14 true or false statements that convey fuel-saving ideas such as planning consideration, decision making and operating techniques. The quiz is intended to be completed by people who view the film and serves as a reminder of the main points conveyed in the film.

Operating Manual

Instructor's Operating Manual for the Municipal Driver Training Program, 1983
The principal goal of the Municipal Professional Driving Program (Planning Smarter, Driving Smoother) is to present ideas to municipal drivers on how they can become more effective and efficient in their use of vehicles and, thereby, reduce the amount of fuel consumed. The purpose of this manual is to provide background information on this program and to provide suggestions on how it can be organized and conducted. (pp.20 and appendices)

Winter Maintenance: Plowing, Sanding, Salting, and Sidewalk Maintenance

Training Video or Slide Show

The Transportation Energy and Productivity Office and the Municipal Transportation Energy and Efficiency Advisory Committee have produced a series of training videos on winter control operations. The video series covers three main topics: plowing; sand and salt spreading; and sidewalk maintenance. This way, municipalities or private companies interested in only one aspect of winter maintenance will have the option of viewing the subject of their choice.

Additionally, the video series covers fall preparation, various types of equipment, correct operational procedures and what to do on return to the yard.

The video will be especially beneficial to maintenance operators. In the past, each municipality has developed its own winter operations procedures and efficiency rates vary from municipality to municipality and according to each staff member's preferred taste in equipment. Therefore, by standardizing winter control operations, the training material will provide many advantages to Ontario's municipalities.

It is available on VHS or 35mm format and can be borrowed for a three-week period.

MTEEAC NEWSLETTER ARTICLES

	Volume	Number
Alternative Fuels		
Propane: An Alternative Fuel for You	1	2
Drive Propane Program	1	2
Alternative Fuels	1	3
Pickering Transit Goes Propane	2	3
Guidelines for Siting Retail Propane Fuelling Facilities	3	1
Propane Inspection	3	2
Propane: An Attractive Alternative for Fleets	4	1
Elgin County: Ontario's First Natural Gas Bus Fleet	4	3
Natural Gas Powered Bus Exceeds All Expectations	5	1
Performance Report: Natural Gas for Vehicles	7	1
Transit		
Brampton-Mississauga Transit Link	1	3
Five Ways to Reduce Transit Travel Time	2	1
Saving Transit Dollars	2	3
Municipal Travel Habits Surveyed	2	3
Energy Efficiency in Transit Buildings	3	3
Bus Bays: The Pros and Cons	8	1
Pavement Management		
Road Repair	5	1
Road Surface Recycling Machine	5	2
Municipal Pavement Management	5	4
An Overview: Road Construction and Maintenance	5	4
Pavement Management: The Municipal Experience	6	1
Technological Breakthrough in Pavement Maintenance	6	2
The Road to Reliable Pavement Management	6	4
A Practical Approach to Pavement Management from an Academic Beginning	7	2
Canadian Expertise Contributes to Major U.S. Highway Research Project	7	4
A Road Management Plan for Small Municipalities	7	4
Roads Inventory Management System - RIMS	8	2

MUNICIPAL TRANSPORTATION ENERGY INFORMATION

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Ontario Ministry of Transportation

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Transportation Technology and Energy Branch

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